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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,553	06/20/2003	Robert E. Stewart	LIT-132/000098-199	6032
32205	7590	10/06/2005	EXAMINER	
PATTI & BRILL ONE NORTH LASALLE STREET 44TH FLOOR CHICAGO, IL 60602			FASTOVSKY, LEONID M	
			ART UNIT	PAPER NUMBER
			3742	

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/600,553

**Applicant(s)**

STEWART, ROBERT E.

**Examiner**

Leonid M. Fastovsky

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 10-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 25-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>20050110, 20030620</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of claims 1-10 (Fig. 1, 2 and 11) in the reply filed on 2/28/05 is acknowledged. However, claim 10 is withdrawn from the prosecution because a capacitive sensor 306 is cited in Fig. 3 that has not been elected.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Othman et al (XP-002057214).

Othman discloses a resonator (Fig. 1, pages 728-730), comprising a single-crystal silicon cantilever beam, the beam is covered with a U-shaped polysilicon resistor, the resistor serves both to provide mechanical excitation of resonance and a sensor for the resulting motion. Mechanical excitation of the beam is produced by the thermal expansion of the polysilicon resistor produced when it is heated by passing an electric current, the current induces a Joule heating. Further, the polysilicon resistor comprises a feedback component- his piezoresistive properties (page 729, left column) to regulate oscillation. More than that, because the resonator has a low temperature coefficient of

frequency the heating element element-resistor inherently causes a natural frequency of the elongated beam (page 729, right column).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5-9 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Othman in view of Toyoshima et al (6,634,230).

Othman discloses substantially the claimed invention, but does not disclose a plurality of beams, nodal points and transverse beam. Toyoshima discloses a vibrator 2 including beams with piezoelectric substrates 3 and 5, nodal points n1 and n2 and transverse beam 8 and 10 (Fig. 1). It would have been obvious to one having ordinary skill in the art to modify Othman's invention to include a plurality of beams and nodal points as taught by Toyoshima in order to provide a more stable resonator.

6. Claims 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Othman in view of Toyoshima and further in view of Beguin et al (5,919,383).

Othman in view of Toyoshima discloses substantially the claimed invention, but does not disclose a Wheatstone bridge and an amplifier. Beguin discloses a temperature compensation package 10 including a temperature sensitive resistor and a heating element 26 and a Wheatstone bridge 50 with resistors R1 and R2 and an amplifier U1A-

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U1D (Fig. 1-5). It would have been obvious to one having ordinary skill in the art to modify the invention of Othman in view of Toyoshima to include a Wheatstone bridge and an amplifier as taught by Beguin in order to regulate the thermal gradient through the resistors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid M. Fastovsky whose telephone number is 571-272-4778. The examiner can normally be reached on M-Th. 8.00 am -6.00 pm.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lmf

  
Leonid M Fastovsky  
Examiner  
Art Unit 3742

9/15/05

  
  
9/26/05